

[Claims]

1. A fuel cell cogeneration system, comprising:

5 a reforming device for reforming raw material fuel to generate reformat;

an oxidant gas humidifying device for taking in recovered water recovered from the reformat and oxidant gas, humidifying the oxidant gas with the recovered water, and discharging the oxidant gas;

10 a fuel cell for generating electricity through an electrochemical reaction between the generated reformat and the discharged oxidant gas, where anode off gas and cathode off gas are generated from the generated reformat and the discharged oxidant gas, respectively; and

15 a hot water storage device for storing recovered heat recovered from cooling water used to cool the fuel cell and discharged from the fuel cell;

wherein the reforming device takes in and combusts the anode off gas to generate combusted exhaust gas, and

20 wherein there is further provided a control device for performing control to use heated gas composed of at least either the combusted exhaust gas or the cathode off gas as a heat source for the oxidant gas humidifying device when a temperature of the hot water storage device is lower than a predetermined value
25 and to use the discharged cooling water as a heat source for the oxidant gas humidifying device when the temperature of the hot water storage device is higher than the predetermined value.

2. The fuel cell cogeneration system of Claim 1,

30 further comprising a heat exchanging device into which the

recovered water is introduced;

wherein the heated gas to be used as a heat source for the oxidant gas humidifying device is introduced into the heat exchanging device to heat the introduced recovered water when
5 the temperature is lower than the predetermined value, and

wherein the discharged cooling water is introduced into the heat exchanging device to heat the introduced recovered water when the temperature is higher than the predetermined value.

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3. The fuel cell cogeneration system of Claim 2,

further comprising a heated gas flow setting device for setting a flow of the heated gas to be introduced into the heat exchanging device when the temperature is lower than the
15 predetermined value and for setting the flow of the heated gas not to be introduced into the heat exchanging device when the temperature is higher than the predetermined value;

wherein the control device controls the setting of the heated gas flow setting device.

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4. The fuel cell cogeneration system of Claim 2 or 3,

further comprising a cooling water flow setting device for setting a flow of the discharged cooling water not to be introduced into the heat exchanging device when the temperature
25 is lower than the predetermined value and for setting the flow of the discharged cooling water to be introduced into the heat exchanging device when the temperature is higher than the predetermined value;

wherein the control device controls the setting of the
30 cooling water flow setting device.